

REMARKS

The Title of the Invention has been amended. The Abstract has been amended. Claims 48, 51, and 55 have been amended to address Examiner's concerns. Claims 1-47 have been cancelled as being withdrawn to a non-elected invention. Claims 52, and 58-69 have been cancelled as having been allowed in the parent case. Claims 48-51 and 53-57 remain in the application. Further examination and reconsideration of the application, as amended, is hereby requested.

On Page 2 of the parent case's Office Action, the Examiner objected to the Title as being non-descriptive. Applicants have amended the title to make it more descriptive of at least one aspect of Applicant's invention as recommended by the Examiner.

On Page 3 of the parent case's Office Action, the Examiner stated that a new Abstract is required that is clearly indicative of the invention to which the claims are directed. Applicants have amended the Abstract as requested by the Examiner to reflect that the claims of the instant application after restriction are directed to a method rather than apparatus.

On Page 4 of the parent case's Office Action, the Examiner rejected claims 48-54 under 35 USC 102(b) or 35 USC 103(a) as being anticipated by Peng. Applicants have amended claim 48 to further clarify and distinguish their invention over the art made of record. Claim 48, as amended, now claims a method for creating "an emitter having a *flat* cathode emission surface" that follows the steps in the order recited. In order for a reference to anticipate, all limitations must be disclosed by the reference cited. Peng discloses a "tip" emitter and not an emitter having a "flat cathode emission surface" as Applicants are now claiming. Further, Peng does not disclose the steps of creating the emitter in the order that Applicants are now claiming. Peng discloses forming the "protective layer" 80 or 120 (see Figs. 11 & 12) on the emitter after the lens structure (118 and dielectric of Fig. 16) is formed. Applicants, conversely form the protective layer over the flat cathode emission surface before the lens structure is created to protect the

emission surface during processing. After the lens structure is created, then the protective layer is etched to expose the flat cathode emission surface. Peng does disclose protecting the emission surface (which is a tip versus flat surface) from processing while the lens structure is formed. Therefore, it may be damaged by etching processes used to create the lens structure. Accordingly, claim 48 is not anticipated or made obvious by Peng and thus is believed patentable over Peng and other art made of record. Withdrawal of the rejection under 35 USC 102(b) for claim 48 is respectfully requested.

Dependent claims 49-51 and 53-54 depend on claim 48 and are believed patentable based at least on the patentability of claim 48. Withdrawal of the rejections under 35 USC 102(b) for claims 49-50 and 35 USC 103(a) for claims 51, and 53-54 is respectfully requested.

On Page 5 of the parent case's Office Action, the Examiner rejected claims 55-57 under 35 USC 102(b) as being anticipated by Peng. Applicants have amended claim 55 to more clearly distinguish their invention over the art made of record. Applicants now claim a method for creating "a flat tunneling emitter" in a predetermined order of steps. Peng discloses a "tip" field emission emitter and not a "flat tunneling" emitter as Applicants are claiming. Further, Applicants are claiming the applying of a protective layer on the flat cathode layer before the applying an electron lens structure on the protective layer. The purpose of the protective layer is to prevent the flat cathode surface from being harmed by the processing required to create the electron lens structure. Conversely, Peng discloses a applying a getter layer on the emission "tip", this layer is applied after the lens structure is formed and thus Peng does not anticipate nor make obvious Applicants now claimed process.

Claims 56 and 57 depend upon claim 55 and are believed patentable based at least on the patentability of claim 55, as amended. Withdrawal of the rejection under 35 USC 102(b) for claims 55-57 is respectfully requested.


The prior art made of record but not relied upon by the Examiner has been reviewed, but is no more pertinent to Applicants' invention than the cited references for the reasons given above.

Applicants believe their claims as amended are patentable over the art of record, and that the amendments made herein are within the scope of a search properly conducted under the provisions of MPEP 904.02. Accordingly, claims 48-51 and 53-57 are deemed to be in condition for allowance, and such allowance
5 is respectfully requested.

Hewlett-Packard Company
Legal Department
1000 NE Circle Blvd.
Corvallis, OR 97330
Telephone: (541)715-4197
Fax: (541)715-8581

Respectfully Submitted,

Z. Chen et al.

By: 
Timothy F. Myers

Patent Attorney

Registration No. 42,919